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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/303,554	05/03/1999	JONG SUN HAN	K-087	8522

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03/11/2004

Fleshner & Kim LLP
14500 Avion Parkway
Suite 125
Chantilly, VA 20151

EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 03/11/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/303,554

Applicant(s)

HAN, JONG SUN

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 3-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The term 'code class information' is not defined in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-5, 8-16, 18-26, 28, 30, 32-37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Felix (US 5,946,356) in view applicant's admitted prior art 'AAPA', and further in view of Gilhousen (US 6,185,246).

Regarding independent claims 10, 12, 15, 21, 24, and 33, Felix teaches a method and apparatus for broadcasting at a base station (fig. 1 box 100) information of at least one or more code class in which Walsh codes assigned to mobile stations from the base station are classified depending on transmission rate (data rate, col. 4 lines 3-7), to a plurality of mobile stations (fig. 1 box 113, only one mobile shown) in its cell or sector (fig. 4 box 409, col. 3 lines 45-50, col. 3 line 66 - col. 4 line 7) on a paging channel or broadcast channel (paging channel, col. 3 line 66 - col. 4 line 7), wherein the call access control signal is broadcast prior to receipt of an access channel request. Regarding the limitation prior to receipt of an access channel request, at the time of the broadcast the remote is not actively communicating with the base station (fig. 4 box 401, col. 3 lines 45-47) and it is the base station that

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initiates the contact (col. 3 lines 56-61, col. 3 line 65 - col. 4 line 3).

Regarding claims 21 and 33, in addition to the limitations previously listed, repeatedly broadcasting, the broadcast occurs via a paging channel (col. 3 line 66 - col. 4 line 2).

Regarding claim 24, in addition to the limitations previously listed, Felix teaches receiving call access control information and accessing the base station using an available code class based on the received Walsh code and class state information (call is originated, col. 4 12-17).

Regarding claims 19, the second status indicates if a plurality of code classes are idle or busy (col. 4 lines 3-7). Note, Felix teaches the base station notifies the remotes of the Walsh Codes currently in use.

Felix is silent on broadcasting at a base station call access control signal including interference information of a reverse link, as specified in independent claims 10, 12, 15, 21, 24, and 33, and dependent claims 16, 22, 25, and 26; the interference information of the reverse link compares overall

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received power from the plurality of mobile stations in the cell or sector of the base station with a predefined threshold value, and then selectively indicates whether a current reverse channel is idle or busy (pg. 2 line 20 - pg. 3 line 5), as specified in claim 3; a link busy/idle field indicating whether or not interference of a reverse link transmitted to a mobile terminal from a base station exceeds a preset threshold value, as specified in claim 12; and transmitting the first or second status / interference information on a broadcast channel, as specified in claim 37.

AAPA teaches broadcasting at a base station call access control signal including interference information of a reverse link (idle/busy bit pg. 3 lines 6-18), as specified in claims 10, 15, 21, 24, and 33 and dependent claims 16, 22, 25, and 26; a link busy/idle field indicating whether or not interference of a reverse link transmitted to a mobile terminal from a base station exceeds a preset threshold value (idle/busy bit pg. 3 lines 6-18), as specified in claim 12; and transmitting the first or second status / interference information on a broadcast channel (pg. 3 lines 6-18), as specified in claim 37.

Therefore it would have been obvious to one of ordinary skill in the art, having both Felix and AAPA before him/her and

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with the teachings [a] as shown by Felix, a method and apparatus for broadcasting at a base station, and [b] as shown by AAPA, at a base station call access control signal including interference information of a reverse link, to be motivated to modify the system of Felix by having the base station broadcast to the mobiles the interference information of the reverse links. This modification can be performed in software. This would improve the system by informing the mobiles of the interference on the reverse links so that the mobiles may choose a link that has sufficiently low interference.

Regarding independent claims 10, 12, 15, 21, 24, and 33, and dependent claims 4, 11, 13, 18, and 22, although Felix teaches CDMA and variable data rates associated with the Walsh codes (col. 3 lines 30-32, col. 4 lines 3-7), the reference does not explicitly teach a plurality of Walsh code classes and indicating the availability of each class.

Gilhousen teaches a plurality of Walsh code classes, wherein the Walsh code length is chosen based upon the channel data rate (col. 3 lines 14-17, 23-27) and indicating the availability of each class (col. 12 lines 18-38), as specified in independent claims 10, 12, 15, 21, 24, and 33, and dependent claims 4, 11, 13, 18, 22.

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Regarding claims 5, 14, 20, 21, Felix does not teach a relative priority order for different code lengths.

Gilhousen teaches relative priority order for different code lengths (col. 12 lines 46-48). The examiner corresponds low data rate with low priority.

Regarding claims 8, 28, 30, 32, 35, Felix fails to teach, mobile station uses a code class having the highest priority of available code classes.

Gilhousen teaches mobile station uses a code class having the highest priority of available code classes (list search for available code appropriate for the data rate of the requested channel, col. 12 lines 29 - 36). The examiner corresponds the applicant's highest priority with Gilhousen's available code appropriate for the data rate of the requested channel.

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Felix and AAPA and Gilhousen before him/her and with the teachings [a] as shown by the combination of Felix and AAPA, a method and apparatus for broadcasting at a base station, and [b] as shown by Gilhousen, a plurality of Walsh code classes, to be motivated to modify the system of the combination of Felix and AAPA by modifying the transceivers of Felix to allow for variable length Walsh codes.

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This can be accomplished by assigning Walsh code lengths based on the data rate of the channel (Gilhousen: col. 3 lines 14-17, 23-27) and having the cell controller keep track of all the codes (Gilhousen: col. 12 lines 18-38). Then the base station would be able to broadcast to the mobile the state of each Walsh code class. This would improve the system by allowing for the selection of variable length Walsh codes and informing the mobile of the availability of each code class so the mobile may choose the optimal code class based upon the data to be transmitted and the code class availability.

Regarding claim 16, the first status is interference information of a reverse link. This limitation has been discussed above.

Regarding claims 22, 25, 26, the limitations have been discussed above.

Regarding claims 23 and 34, performing a call access request using an available code class based on the call access control information, Felix teaches the base station notifying the remote on call access control information / available Walsh codes (col. 4 lines 2-7).

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Regarding claim 36, the data frame structure is used for controlling call access of a terminal on a paging channel or broadcast channel in a communication system (Felix: col. 3 line 66 - col. 4 line 3).

Regarding claim 37, transmitting the first or second status / code information on a paging channel (Felix: col. 3 line 66 - col. 4 line 2).

5. Claims 6, 27, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Felix, 'AAPA', and Gilhousen and further in view of Kamachi (US 5,678,181).

Although AAPA teaches call access information being broadcast through the broadcasting channel 'BCCH', the reference is silent on the period of transmission being a superframe period.

Kamachi teaches the BCCH channel is broadcast per superframe (fig. 2).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Felix, 'AAPA',

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and Gilhousen and Kamachi before him/her and with the teachings [a] as shown by the combination of Felix, 'AAPA', and Gilhousen, a method of controlling call access in a mobile communication system wherein call access information is transmitted through the BCCH channel, and [b] as shown by Kamachi, the BCCH channel is broadcast per superframe, to be motivated to modify the system of the combination of Felix, 'AAPA', and Gilhousen by transmitting call access information through a broadcasting channel BCCH on a superframe basis. This modification can be performed in software. This would improve the system by making the system compliant with conventional mobile radio systems (Kamachi: col. 5 lines 3-4).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Felix, 'AAPA', and Gilhousen and further in view of Czaja (US 6,356,595).

Although Felix teaches call access information is transmitted through a paging channel (col. 3 line 66 - col. 4 line 2), the reference is silent on the period of transmission.

Czaja teaches transmitting on the paging channel per slot cycle period (fig. 1, col. 3 lines 61-63, 66-67).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Felix, 'AAPA',

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and Gilhousen and Czaja before him/her and with the teachings [a] as shown by the combination of Felix, 'AAPA', and Gilhousen, a method of controlling call access in a mobile communication system wherein call access information is transmitted through the paging channel, and [b] as shown by Czaja, transmitting on the paging channel per slot cycle period, to be motivated to modify the system of the combination of Felix, 'AAPA', and Gilhousen by transmitting access information on the paging channel and assigning each mobile station one periodic paging channel slot. This would improve the system since the mobile is forced to only 'listen' during a known time period (Czaja: col. 3 line 67 - col. 4 line 2).

Response to Arguments

7. Applicant's arguments with respect to claims 3-26 have been considered but are moot in view of the new ground(s) of rejection.

The examiner agrees with the applicant that Hall does not teach broadcasting from a base station a call access control signal including interference information of a reverse link to a plurality of mobile stations (applicant: pg. 13 lines 17-19).

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However, the examiner disagrees with the applicant's assertion that Felix does not teach "broadcasting information of at least one or more code class in which Walsh codes ..." (applicant: pg. 12 1st paragraph). As previously shown, Felix teaches the base station notifies the remote unit of the Walsh Codes utilized (col. 4 lines 3-7).

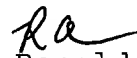
Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ronald Abelson
Examiner
Art Unit 2666


DANGTON
PRIMARY EXAMINER